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**REFERENCE DESIGNATION U.S. PATENT DOCUMENTS**

| EXAM. INIT. | | DOCUMENT NUMBER | | | | | | | DATE | NAME | CLASS | SUB CLASS | FIL.DATE IF APPROPRIATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TN | AA | 5 | 4 | 3 | 4 | 8 | 7 | 8 | Jul 18, 1995 | Lawandy | 372 | 43 | |
| | AB | 6 | 2 | 9 | 4 | 4 | 0 | 1 | Sept 25, 2001 | Jacobson et al. | 438 | 99 | |
| | AC | 0 | 0 | 1 | 7 | 6 | 5 | 7 | Feb 14, 202 | Coffa et al. | 257 | 200 | |
| | AD | 0 | 0 | 7 | 0 | 1 | 2 | 1 | Jun 13, 2002 | Nayfch et al. | 205 | 549 | |
| | AE | 0 | 0 | 7 | 4 | 5 | 6 | 5 | Jun 20, 2002 | Flagan et al. | 257 | 200 | |
| | AF | 0 | 1 | 6 | 3 | 0 | 0 | 3 | Nov 7, 2002 | Dal Negro et al. | 257 | 79 | |
| | | | | | | | | | | | | | |

**FOREIGN PATENT DOCUMENTS**

| | | DOCUMENT NUMBER | | | | | | | DATE | COUNTRY | CLASS | SUB CLASS | TRANSLATION | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | YES | NO |
| TN | AG | 2 | 0 | 6 | 1 | 8 | 1 | 5 | 28.01.2002 | WO | H01L | 21/20 | | |
| | | | | | | | | | | | | | | |

**OTHER ART (including Author, Title, Date, Pertinent Pages, Etc.)**

| | | | |
|---|---|---|---|
| TN | AH | | A. Nakajima, et al.; MICROSTRUCTURE AND OPTICAL ABSORPTION PROPERTIES OS Si NANOCRYSTALS FABRICATED WITH LOW-PRESSURE CHEMICAL-VAPOR DEPOSITION; J. Appl. Phys., Vol. 80, No. 7, 1 October 1996, pp. 4006-4011. |
| | AI | | Jeong Sook Ha, et al.; $Er^{3+}$ PHOTOLUMINESCENCE FROM Er-DOPED AMORPHOUS $SiO_x$ FILMS PREPARED BY PULSED LASER DEPOSITION AT ROOM TEMPERATURE: THE EFFECTS OF OXYGEN CONCENTRATION; Applied Physics Letters, Vol. 82, No. 20, 19 May 2003, pp. 3436-3438. |
| | AJ | | Jung H. Shin, et al.; EFFECT OF HYDROGENATION ON ROOM-TEMPERATURE 1.54 μm $Er^{3+}$ PHOTOLUMINESCENT PROPERTIES OF ERBIUM-DOPED SILICON-RICH SILICON OXIDE; Applied Physics Letters, Vol. 73, No. 25, 21 December 1998, pp. 3647-3649. |
| | AK | | T.G. Kim, et al.; CONTROLLING THE FORMATION OF LUMINESCENT Si NANOCRYSTALS IN PLASMA-ENHANCED CHEMICAL VAPOR DEPOSITED SILICON-RICH SILICON OXIDE THROUGH ION IRRADIATION; Journal of Applied Physics, Vol. 91, No. 5, 1 March 2002, pp. 3236-3242. |
| | AL | | M. Li, et al.; ELLIPSOMETRY INVESTIGATION OF NUCLEATION AND GROWTH OF ELECTRON CYCLOTRON RESONANCE PLASMA DEPOSITED SILICON FILMS; J. Vac. Sci. Technol. A 11(4) Jul/Aug 1993, pp. 1686-1691. |
| | AM | | H.S. Bae, et al.; ELECTROLUMINESCENCE MECHANISM IN $SiO_x$ LAYERS CONTAINING RADIATIVE CENTERS; Journal of Applied Physics, Vol. 91, No. 7, 1 April 2002, pp. 4078-4081. |
| | AN | | Minoru Fujii, et al.; 1.54 μm PHOTOLUMINESCENCE OF $Er^{3+}$ DOPED INTO $SiO_2$ FILMS CONTAINING Si NANOCRYSTALS: EVIDENCE FOR ENERGY TRANSFER FROM Si NANOCRYSTALS TO $Er^{3+}$; Appl. Phys. Lett. 71 (9), September 1997, pp. 1198-1200. |
| | AO | | Giorgia Franzò, et al.; ENHANCED RARE EARTH LUMINESCENCE IN SILICON NANOCRYSTALS; Materials Science and Engineering B69-70, 2000, pp. 335-339. |

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|---|---|
| T. NGUYEN | 1/18/06 |

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**OTHER ART (including Author, Title, Date, Pertinent Pages, Etc.)**

| | | | |
|---|---|---|---|
| TN | AP | | Giorgia Franzò, et al.; $Er^{3+}$ IONS-Si NANOCRYSTALS INTERACTIONS AND THEIR EFFECTS ON THE LUMINESCENCE PROPERTIES; Applied Physics Letters, Vol. 76, No. 16, 17 April 2000, pp. 2167-2169. |
| | AQ | | Se-Young Seo, and Jung H. Shin; EXCITON-ERBIUM COUPLING AND THE EXCITATION DYNAMICS OF $Er^{3+}$ IN ERBIUM-DOPED SILICON-RICH SILICON OXIDE; Applied Physics Letters, Vol. 78, No. 18, 30 April 2001, pp. 2709-2711. |
| | AR | | Jung H. Shin, et al.; PHOTOLUMINESCENCE EXCITATION SPECTROSCOPY OF ERBIUM-DOPED SILICON-RICH SILICON OXIDE; Applied Physics Letters, Vol. 76, No. 15, 10 April 2000, pp. 1999-2001. |
| | AS | | F. Iacona, et al.; ELECTROLUMINESCENCE AT 1.54 μm IN Er-DOPED Si NANOCLUSTER-BASED DEVICES; Applied Physics Letters, Vol. 81, No. 17, 21 October 2002, pp. 3242-3244. |
| | AT | | Minoru Fujii, et al.; PHOTOLUMINESCENCE FROM $SiO_2$ FILMS CONTAINING Si NANOCRYSTALS AND Er: EFFECTS OF NANOCRYSTALLINE SIZE ON THE PHOTOLUMINESCENCE EFFICIENCY OF $Er^{3+}$; Journal of Applied Physics, Vol. 84, No. 8, 15 October 1998, pp. 4525-4531. |
| | AU | | A.J. Kenyon, et al.; LUMINESCENCE FROM ERBIUM-DOPED SILICON NANOCRYSTALS IN SILICA: EXCITATION MECHANISMS; Journal of Applied Physics, Vol. 91, No. 1, 1 January 2002, pp. 367-374. |
| | AV | | J. De la Torre, et al.; OPTICAL AND ELECTRICAL TRANSPORT MECHANISMS IN Si-NANOCRYSTAL-BASED LEDs; Elsevier Science B.V., Physica E, 2002, pp. 1-3. |
| | AW | | Jung H. Shin, et al.; COMPOSITION DEPENDENCE OF ROOM TEMPERATURE 1.54 μm $Er^{3+}$ LUMINESCENCE FROM ERBIUM-DOPED SILICON: OXYGEN THIN FILMS DEPOSITED BY ELECTRON CYCLOTRON RESONANCE PLASMA ENHANCED CHEMICAL VAPOR DEPOSITION; Applied Physics Letters, Vol. 72, No. 9, 2 March 1998, pp. 1092-1094. |
| | AX | | P.G. Kik, et al.; STRONG EXCITON-ERBIUM COUPLING IN Si NANOCRYSTAL-DOPED $SiO_2$; Applied Physics Letters, Vol. 76, No. 17, 24 April 2000, pp. 2325-2327. |
| | AY | | G. Franzò, et al.; ELECTROLUMINESCENCE OF SILICON NANOCRYSTALS IN MOS STRUCTURES; Appl. Phys. A, Materials Science & Processing, 74, (2002), pp. 1-5. |
| | AZ | | A. Irrera, et al.; EXCITATION AND DE-EXCITATION PROPERTIES OF SILICON QUANTRUM DOTS UNDER ELECTRICAL PUMPING; Applied Physics Letters, Vol. 81, No. 10, 2 September 2002, pp. 1866-1868. |
| | aa | | P.S. Andry, et al.; GROWTH OF Er-DOPED SILICON USING METALORGANICS BY PLASMA-ENHANCED CHEMICAL VAPOR DEPOSITION; J. Appl. Phys. 80 (1), 1 July 1996, pp. 551-558. |
| | ab | | Kei Watanabe, et al.; RESONANT EXCITATION OF $Er^{3+}$ BY THE ENERGY TRANSFER FROM Si NANOCRYSTALS; Journal of Applied Physics, Vol. 90, No. 9, 1 November 2001, pp. 4761-4767. |
| | ac | | J. De la Torre, et al.; OPTICAL PROPERTIES OF SILICON NANOCRYSTAL LEDs; Elsevier Science B.V., Physica E, 2002, pp. 326-330. |

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|---|---|---|---|---|---|---|---|
| TN | AA | 5,667,905 | 1997.09.16 | Campisano, Salvatore Ugo et al. | | | |
| | AB | 6,225,669 | 2001.07.03 | Birkhahn, Ronald H. et al. | | | |
| | AC | US 2003/034486 | 2003.02.20 | Korgel, Brian A. | | | |
| | AD | US 2002/048289 | 2002.04.25 | Atanackovic, Petar B et al. | | | |
| | AE | US 2004/183087 | 2004.09.23 | Gardner, Donald S. | | | |
| | AF | 5,422,907 | 1995.06.06 | Bhargava, Raneshwar N. | | | |
| | AG | 5,637,258 | 1997.06.10 | Goldburt, Efim T. et al. | | | |
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**FOREIGN PATENT DOCUMENTS**

| | | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUB CLASS | TRANSLATION YES | TRANSLATION NO |
|---|---|---|---|---|---|---|---|---|
| TN | AH | 101 04 193 | 2002.08.01 | DE | | | | |
| | AI | 2001 203382 | 2001.27.07 | JP | | | | |
| | AJ | 1 134 799 | 2001.09.19 | EP | | | | |
| | AK | WO 02/061815 | 2002.08.08 | DE | | | | |
| | AL | 0 650 200 | 1995.04.26 | EP | | | | |

**OTHER ART (including Author, Title, Date, Pertinent Pages, Etc.)**

| | | | |
|---|---|---|---|
| TN | AM | Orlov, L.K. et al. | COMPARITIVE ANALYSIS OF LIGHT EMMITTING PROPERTIES OF Si:Er AND Ge/$Si_{1-x}Ge_x$ EPITAXIAL STRUCTURES OBTAINED BY MBE METHOD. *Gettering and Defect Engineering in Semiconductor Technology, Solid State Phenomena (FORMERLY Part B of "Diffusion and Defect Data [0377-6883]).* Vol 69 until 70, 1999. Pages 377-382. ISSN:1012-0394. |
| | AN | Shin, J.H. et al. | CONTROLLING THE QUANTUM EFFECTS AND ERBIUM-CARRIER INTERACTION USING Si/$SiO_2$ SUPERLATTICES. *Proceedings of the SPIE.* Vol. 4282, January 1, 2001. Bellingham, VA United States of America. Pages 142-152. |
| | AO | Yun, F. et al. | ROOM TEMPERATURE SINGLE-ELECTRON NARROW-CHANNEL MEMORY WITH SILICONNANODOTS EMBEDDED IN $SiO_2$ MATRIX. *Japanese Journal of Applied Physics.* Publication Office Japanese Journal of Applied Physics. Vol. 39, no. 8A Part II. August 1, 2000. Tokyo, Japan. Pages L792- L795. |

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|---|---|---|---|
| TN | AP | Rozo, C. et al. | SPECTOSCOPIC STUDY OF RARE EARTH DOPED NANO-CRYSTALLINE SILICON IN SIO2 FILMS. *Quantum Confined Semiconductor Nanostructures. Symposium (Mater. Res. Soc. Symposium Proceedings Vol. 737)* Mater Res. Soc Warrendale, Pa, USA, 2003. Pages 517-522, XP 002310621. ISBN:1-55899-674-5 |
| | AQ | Fujii, Minoru et al. | EXCITATION OF INTRA-4*f* SHELL LUMINESCENCE OF $Yb^{3+}$ BY ENERGY TRANSFER FROM Si NANOCRYSTALS. *Applied Physics Letters.* American Institute of Physics. New York, USA. Vol. 73, no. 21. 23 November 1998, Pages 3108-3110, XP 012021485. ISSN: 0003-6951. |
| | AR | Pacifici, D. et al. | ERBIUM-DOPED Si NANOCRYSTALS: OPTICAL PROPERTIES AND ELECTOLUMINESCENT DEVICES. *Physica E.* Elsevier netherlands, Vol. 16, no. 3-4, March 2003. Pages 331-340, XP 002310622. ISSN: 1386-9477. |

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